This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

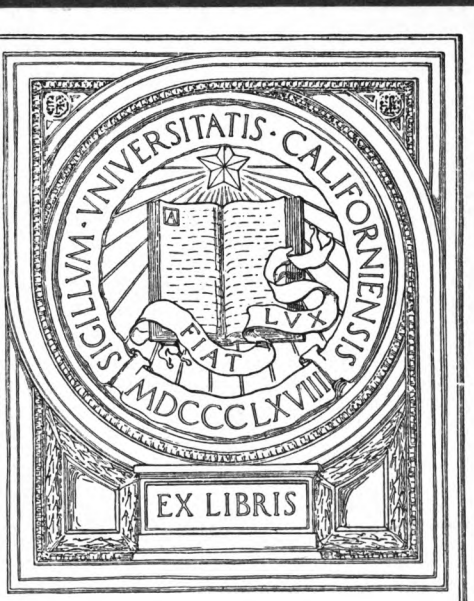
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



954s
A873
t

Digitized by Google

Three Phases of Energy

The Basis of ORGANIC LIFE

By
Albert J. Atkins, M. D.

Digitized by Google

Digitized by Google

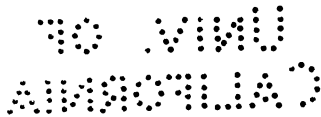
Three Phases of Energy

The Basis of ORGANIC LIFE

By
Albert J. Atkins, M. D.

Digitized by Google

COPYRIGHT 1920
BY
ALBERT J. ATKINS, M. D.



PRINTED BY
INGRIM-RUTLEDGE CO.
SAN FRANCISCO

PUBLISHED BY THE AUTHOR
734 PINE STREET
SAN FRANCISCO, CAL., U. S. A.

Digitized by Google

FOREWORD

The deductions here set forth are the result of many experiments on living animals under humane conditions of local anæsthesia. Unfortunately, the tabulated files of these experiments were burnt with the author's library in the great San Francisco fire of 1906. However, the scientific and lay press of that period gave them wide publicity.

During the many years which have intervened I have had time to formulate my ideas on this subject, and I now send them forth for what they are worth, with no hope of reward nor fear of punishment. Let every true student try them out for himself alone.

THE AUTHOR.

964390

Digitized by Google

Digitized by Google

THREE PHASES OF ENERGY THE BASIS OF ORGANIC LIFE

A NEW CONCEPT

By Albert J. Atkins, M. D.

When traced to final conclusions, the life of man's organism is found to be dependent upon three primal sources of energy supply. One of these sources is the potential energy of food through the route of digestion. The second is an internal reserve supply of energy in the form of fine secretions manufactured by internal ductless glands and conveyed to venous blood by lymphatic vessels. The third condition is met and set in action by universal energy in the form of breath in the living lungs.

In keeping with this great triune plan of energy is found three main groups of organs displaying the phenomena of life in man's physical body as a result of energy from three sources.

Again we find these organs located in three greater cavities of the body. They are the thoracic cavity, the cavity of the

Digitized by Google

skull and vertebrae, and the abdominal cavity.

The thoracic cavity contains the heart, the lungs, and the beginnings of the larger blood vesseis, the latter permeating the whole structure, binding all organs into one great whole. The skull and vertebrae contain the brain and the beginnings of the larger nerves, which also follow the blood vessels into the most intricate parts of the living organism as threads of unity, causing it to be one great sensorium of activities. The abdominal cavity contains nearly all the organs concerned in digestion, such as the stomach, liver, and pancreas, the kidneys and many other secreting and excreting glands, the alimentary canal being its principal organ which binds its greater composite result to the rest of the organism from the viewpoint of energy.

Still further, it is found that these three greater groups of organs, lying in these cavities, are enclosed in separate membraneous pouches or sacs. One of these is called the pleura and pericardium, it being a subdivided cavity containing the heart and lungs. The membranes cover-

Digitized by Google

ing the organs of the skull and vertebral cavities are the duramater, piamater, and arachnoid. The great sac covering all the abdominal organs is called the peritoneum. If we go deeper in our examination of the organs enclosed in these sheaths of connective tissue origin we find each individual organ of each group wrapped and enfolded in a similar membrane. Going still further in our observation, it will be found that each individual organ is divided and subdivided into sections and sub-sections, until we find the individual rows of cells composing these organs are attached to a connective tissue sheath which binds every part of the organism into one perfected structure; for even where the blood fails to circulate in the denser structures of the human anatomy that part is composed of connective tissue. Even the blood itself circulates in a closed system of tubes made of this material. Then it dips down into every deep crevice and sulcus and manages to enfold every part of the nervous system in its fond embrace.

The nervous system as a whole is born of the same parentage as the skin morphologically and histologically, and the entire

Digitized by Google

organism is enclosed in a membraneous pouch called the skin; fitting over all outside surfaces like a rubber glove. The skin contains the great fundamental organ of sensation known as touch. For this reason Nature placed it on the outside, where it might come in touch with the forces of environment. Then she invaginated certain organs like the lungs, kidneys, and alimentary canal by reversing the skin and making them mucous membranes, lining such invaginations as are exposed to outside influences with this velvety material. All of these organs being lined and composed of a membrane of the same origin as the skin proves that they are simple compensatory organs slightly protected in degree, by reason of their invagination, to enable them to perform their functions of excretion under all conditions of temperature existing in the external world of environment. For instance, the lungs and kidneys are known to compensate the skin in the sweating process in cold weather, proving the above hypothesis. Again in non-sweating animals, like the dog or ox, the skin does not sweat, but the lungs and kidneys do the work of elimina-

Digitized by Google

tion instead of the pores of the skin. In man all of these organs work in perfect harmony as eliminators of waste, showing their functional relationship to the skin; so it follows that the lungs, being protected by invagination to the sudden changes in the temperatures of atmosphere, perform this important office in regulating the internal functioning organs with the external forces of nature. The lungs are the all-important organs of life because they stand between the universal and the special organs of life, performing the double function of elimination and transmission of energy which transforms venous blood from the dark hue of the venus into the scarlet of the arteries and sending it on its mission of life to all the cellular structures of the organism. In still plainer words the lungs sweat out, under all conditions of temperature, the waste products of the body just as the skin does under normal conditions through its pores, and at the same time they transmit to the living body the vibratory energy of atmosphere which is the great life principle that keeps in action every other function of the living organism.

Digitized by Google

In order to understand these hitherto unexplained phenomena we must examine some of the well-known laws of mechanical instruments and go into the most minute study of the anatomy of the lungs and blood vessels, comparing their relationship in principle, and then the greatest mystery of all human life may be solved.

The telephone is the most sensitive of all known electrical devices because its transmitting qualities depend upon the make and break of an electrical circuit of energy circuits at low potential, charging a bed of finely granulated carbon upon which rests a metallic diaphragm. When the vibration of the human voice impinges on this metallic diaphragm they shove it forward against the carbon bed, thus closing the energy circuit in the distant receiver and producing the identical sound wave that vibrated the first metallic substance in the sender diaphragm because the entire line is energized. The make and break of this energy circuit is so delicate that even the infinitesimal vibration of the human voice may send its exact reproduction throughout the circuit, even though it extends across continents, yet the principle

Digitized by Google

is the same even in a local line of ten feet, the whole scheme being based upon the law of induction, which means that a primary action induces a secondary action of like nature, all things being equal and harmonious in the natural circuit.

With these principles fully understood, let us apply them to Nature's process of breathing in man and all animal life.

When Nature breathed into the nostrils of man the breath of life and he became a living soul every principle of the telephone was used long before man even guessed at the wonderful process taking place with each breath. In order to understand this it requires the minutest knowledge of not only the telephonic principle, but also of anatomy. Therefore let us follow this direction of infinite law and see for ourselves.

The air passages of the lung gradually taper, dividing and subdividing until they become bronchi, finally ending in single basement membrane composed of connective tissue forming the delicate individual air sac. This membrane has great elasticity and is capable of stretching like rubber without tearing, until it is less than

Digitized by Google

twenty-thousandths of an inch in thickness. However thin it is, it is capable of separating the blood from the atmosphere even with the greater pressure of blood occupying the inner side of the membrane from that of air that is being breathed into the delicate lung chambers on the outside.

Thus the two great circulations of air and blood come so closely together that this sufficiently delicate membrane is the only thing that separates them and prevents any exchange other than that of vibratory energy, which uses this delicate diaphragm in each air sac to conduct itself to the blood on the same principle as does the metallic diaphram of the telephone.

In order to appreciate this delicate manifestation of natural force let us examine the anatomy of the blood and its vessels. Wound around each air sac in a spiral manner, forming a perfect induction coil is a capillary blood vessel bearing venous blood. The blood is forced through these small interstices by the pumping action of the heart. Their calibre is so small that only one corpuscle can pass at a time, just like a string of coins of the same size lying in close contact, yet mov-

Digitized by Google

ing rapidly. Each red blood disk is composed of fifty-five per cent. carbon and one per cent. of para magnetic iron as its principal chemical composition. The variable blood pressure, from the mechanical pumping action of the heart against the variable atmospheric pressure from without, causes this membrane in each air sac of the lung to stretch itself over a bed of carbon, thus forming thousands of individual vibratory circuits to the blood stream, on the same principle as that of the telephone receivers. Every air sac, therefore, becomes an individual receiver and transmitter of energy to the blood of the arteries, which in turn forms the next great conductor of this life force to the entire organism.

With this knowledge fully in our minds, let us now examine the atmosphere and study its delicate relationship to life. Every man knows that he can not live more than five minutes without direct contact with living vibratory air. This source of energy is a fixed condition of Nature. The chemists and theorists have tried to make of the human system a plain gas machine, based upon a theory that does

Digitized by Google

not have a single fact to sustain it, *i. e.*, the oxygenation of the blood by having a gas pass through a living membrane against the greater pressure of the blood. This is an impossibility according to all known laws of physics. However, the theory is nearly but not quite correct, for oxygen is the essential element of air which plays the all-important rôle in Nature's method of energizing the blood and in cleansing the waste products of excretion from the many glands on the surfaces of the lungs. Oxygen, like the lungs, plays a double rôle in the scheme of life. For instance, the lungs, like the skin, excrete waste products in the form of carbon or broken-up chemical elements, which in a heated atmosphere containing oxygen unite with these elements, forming the chemical combination known as carbon dioxide found so abundantly in the expired air of the lungs. (NOTE: According to this theory, the chemical action takes place in the air chambers outside the blood stream.) Again, the same oxygen plays the rôle of stepping down the universal energy, vibrating forever in atmospheric waves, until it comes into phase with the forces moving

Digitized by Google

in all living organisms that breathe, by reason of the power of gravity. For instance, the forces of gravity within the earth affect all atomic substances circulating in its atmosphere of magnetic attraction, drawing them toward its centre on the same general principle that an apple falls toward the earth when it drops from the bough of a tree. The atoms of gas in the earth's atmosphere are known to circulate around each other in orbits just like the greater planets in their much greater fields. However, this power of the earth's gravity draws all the gases surrounding the earth into a kind of general bondage, still allowing them to circulate without chemical union. Oxygen of air, being the most magnetic of all known gases, is most affected by the earth's gravity; consequently it circulates most slowly in its individual orbit of gaseous materials, therefore cutting the lines of force the least and thus slows the universal energy until it is capable of being transmitted into a still denser material like that of the blood as its fluid conductor. The carbon and iron in the blood cells act as transformers, still further reducing and stepping down the universal energy of

Digitized by Google

breath until it is capable of producing phenomena within an organism. The first result is a complete change in color in the energized blood from that of the dark blue of the veins to the scarlet color of the arteries, brought about by the charge of energy causing the free carbon and oxygen elements floating in the blood stream to assume opposite polarities and allowing the charge to flow through arterial blood almost instantly to every part of the living anatomy, as proved in my experiments.

The first great wave of energy from breath uses the fluids of the blood as its primary conductor until it reaches the capillaries, where its power and force is spent in stimulating the multiplied rows of individual cells attached, as they all are, to sheaths of connective tissue as before described. This stimulus of life from the arterial blood stream starts a wave of contraction by induction, in answer to a first cause, throughout every cell and organ as a whole; this return contractile wave causes every tissue to tighten up and brings a shortening grasp, not only upon the heart as an individual organ, but upon every other tissue and organ; consequently

Digitized by Google

the heart not only goes through a complete cycle of contraction in every one of its four chambers, but there is the general contractile effect upon the blood stream in all other organs at the same time. This answers the great mystery of why the blood pressure rises to its maximum in the first cycle of the heart's beat after inhalation or inspiration. From the cells composing every structure of the body this energy wave of induction flows backward through connective tissue sheaths as conductor until its power charges the entire nervous system as a condenser of force, thus making it capable of producing living phenomena. This same wave of force causes the lungs to relax and exhale the atmosphere during a brief pause in the rhythmic actions of the heart. This action releases the tension in every air sac of the lungs, and under this condition they are no. longer capable of transmitting universal or atmospheric energy as a first cause, during the pause from one breath to another; consequently the lungs, as a whole, now act as circuit breakers, allowing the accumulated force of the general nervous system, which has acted as a general con-

Digitized by Google

denser in the first phase, to discharge its power, as a secondary wave, to all the organs concerned in the synchronism of life. This power is not so great as the first described wave, for it is distributed principally to all organs that work automatically, as in sleep, such as the heart, lungs, and general circulatory apparatus. Thus, by reason of this inductive power manifest in the nervous system, the heart undergoes another complete cycle of contraction in its four chambers as a result of one breath. During this time there has been, in reality, eight contractions and relaxations in the four separate chambers of the heart, but we are only able to feel four of them in the arteries, while four of them have been lost in the veins, which for lack of tension will not allow conveyance of a pulse wave. This theory alone accounts for the four pulsations of an artery which can be felt to every one of breath and allows for all known pauses in the phenomena taking place in these heretofore mysterious organs. Again this secondary wave is capable of producing, through the nervous system, just as much and different phenomena as there are special organs in the human

Digitized by Google

body. For instance, it opens the lungs, causing them to expand according to their vitality and the heart to contract as an individual organ; the contraction of the heart brings a secondary mechanical pumping force upon the blood stream so that the blood pressure falls to the minimum in the second phase for lack of power, which is another undeniable proof of the correctness of the hypothesis. The expansion of the lungs, with the atmospheric pressure of the heart from within, again opens the gateway for the great universal energy to flow through the thousands of tense air sacs, spreading over beds of carbon in the arterial blood stream, and repeats the same phenomena about seventy-two times every minute. This continues throughout a lifetime, which may range from one minute to a hundred or more years. Still the great fundamental principle of action is the same in all organic life, no matter whether it breathes in its ununiversal energy through gills by contact with the waters of the sea or receives it on a higher plan from the great ocean of liquid atmosphere that surrounds the earth. Each form of life, being adapted to such conditions by

Digitized by Google

necessity, works upon the same general plan, and the deep-sea fish does not necessarily have to rise to the surface of the ocean in order to oxygenate the blood, as would be absolutely necessary every second under the accepted theory. In truth, the fish simply receives a slower vibration of universal energy through liquid water against the gills instead of atmosphere; consequently it occupies a lower order of life, but lives on the same principle as does man.

Fascinating and interesting as this subject is to all who wish to know truth, we must not stop on the threshold and become hypnotized with a few facts about the way these wonderful forces produce the phenomena of life. Let us go still deeper into the intricate laws of life. While the lungs are the all-important organs that inaugurate and maintain the functions of life through all the days and nights of a lifetime, still these must be corroborated by other organs in the great scheme. Therefore let us follow on into this arcanum with the full understanding that we are the first to explore these unknown shores of natural law. Arguments may be brought against

Digitized by Google

every proposition by those who believe in the old theories, but let them come freely, and in the end I am satisfied that truth will prevail. Therefore, I only ask of you to follow while we examine other groups of organs and endeavor to show their relationship in function to the greater scheme of energy. Only the briefest description of the phenomena taking place as the result of one breath is given, for the reason that energy is the subject under discussion.

In the foregoing description of the power of breath only one of the three sources of energy supply to the human organism has been partially described. Your attention will now be directed to the other two sources of power which, intermingling with that of breath, enables the organism to sustain itself under all the opposing and difficult conditions of environment, such as long periods of disease and of fasting under these abnormal conditions, and still maintain the functions of life in the organism as a whole. In spite of all attacks of disease, it is wonderful how Nature cures them, in about eighty per cent. of all acute conditions, without the aid of cults or even the doctor. In order to under-

Digitized by Google

stand the real secret, let us study her methods of sustaining vitality. Nature placed a great system of ductless glands and organs, like the spleen, pancreas, thyroid and pituitary glands, in different parts of the body to manufacture a reserve supply of energy in fluid form to be used under all conditions and to be poured into venous blood by the whole lympathic system. The lymphatic system is one of minute tubes which gather the results of ductless gland secretions from every part of the organism and conveys them to venous blood, through the thoracic duct, into the venous system, just before it is pumped to the lungs for revitalization by atmospheric energy. There are two great divisions of this system. One gathers the products of the brain and upper laboratories of the human organism, while the other takes up the refined products of the digestive organs as a whole, adding all the power of refined essences of food to that of the internal secretions from the upper glands and obscure organs of the brain, such as the pituitary and pineal glands, to that of venous blood just before the heart pumps it to the fountain head of life in the

Digitized by Google

lungs. It is unnecessary to describe the full process of digestion to those who understand its laws, for in the last analysis they will find that the cruder products pass away as waste through the outlets of the alimentary canal, while only the very spirit or essence of all the food that enters the stomach ever enters the circulation of the blood through the lymphatic duct as chyle. Nothing but the most refined products from all three sources are allowed within the sealed chambers of the blood, for it circulates in a closed system of tubes where no gas ever enters, in spite of all the teaching to the contrary. In this deep channel of life only perfect materials can possibly enter, and that after they have passed through all the refining processes of the organs of alimentation and the unnecessary elements sent to the waste-basket of the alimentary canal.

When venous blood, condemned as impure, reaches the lungs for the electrical spark of life, of breath, it is by far the richer blood of the whole body, in reality, from the standpoint of potential energy; for it has gathered through the thoracic duct, not only the most refined products of

Digitized by Google

digestion, but from the deep, hidden sources of the mind, whose throne is the brain, there comes down a still finer product to be poured into venous blood, to augment the great river of life. Thus the mentality has its effect upon the physical forces, but it occupies only one-third of a circle of truth and a third of anything will always remain the same. Therefore, when venous blood reaches the lungs at every pumping action of the heart it may be likened to refined gasoline awaiting the spark of energy from the universe in the lungs to start its potential power and transform it into the mechanical vibratory motions of the whole system.

So here is revealed the meaning of that vast system of ductless glands which have puzzled the world so long. Here, also, is a new concept of the laws of digestion, for in the new light it becomes simply a vast system of organs concerned in the one object, that of sublimination and elimination, selecting, as it were, from the commerce of food supply only the very finest, distilled essences until they are fitted to enter the blood stream.

From this source alone comes all the

Digitized by Google

oxygen found in the blood stream, which never exists there except in combination chemically with other fluids; for with the vacuum necessary for the pumping action of the heart, according to the laws of physics, it would be impossible to have a free gas within the circulatory apparatus. Thus, from three primal sources, the energy supply to the blood has been traced and briefly described.

A deep study of the intricate anatomy and known facts of physiology will convince the true student with open mind of the truth of the theory, because it answers the known phenomena. The next problem for interpretation is heat; the normal temperature of the body must be maintained under all conditions, otherwise it succumbs to the forces of environment.

A fluid charged with energy, meeting constant resistance in a circuit, will maintain a certain temperature so long as the source of energy remains and the resistance is unchanged. The strange fact is that venous blood is higher in temperature than arterial blood, under all conditions, although it is generally understood to be the opposite. In the portal circulation,

Digitized by Google

for instance in the liver, the temperature is 107 degrees normally, while that of the mouth and exposed organs of the body averages 98.6. Let us find the cause of this phenomenon.

The tissues of the body vary in density of structure, ranging from the fluid to the almost solid substance of the bones. While blood is composed largely of fluid, still it carries considerable solid material in the substance of its red blood cells, such as carbon and iron, as before explained. Let it be understood that it is a law of conduction that carbon in a loose free state will act as a resisting power, producing heat in a volume of energy when not compressed. Here, then, is another secret unfolded. When the relaxation of the whole system is released from the pressure in the blood stream, these same elements, floating in the blood stream, act as transformers, stepping the energy currents down until they finally become heated under the natural law of resistance. Then, too, as the arteries leave the heart they immediately begin to branch and subdivide and go into all parts of the body; becoming more and more narrow as they proceed, until they

Digitized by Google

come down to the channel of the capillaries, which is so small that only one blood cell can follow another in rapid succession. This gradual narrowing causes resistance as well as that of the carbon in the blood cell to the almost constant flow of energy of breath, and when the blood is whirled through the spiral induction coil of every capillary the energy is lost to some extent, charging all the cellular structures with life, and some of its power is lost in venous blood as heat; the polarity of the blood cells is changed and the color of the blood becomes blue and venous because of heat, and it floats back to the heart in ever widening veins which convey the same to the external surfaces like pipes of a hot-water system. The arteries are not the only source of heat, nor is any particular set of capillaries, for our theory must answer all known conditions. The liver, which is known as a veritable electro-chemical furnace, burns up the carbohydrates conveyed by the portal veins from the organs of digestion direct, and as well destroys by heat other waste products, such as worn-out blood cells. It is a kind of crematory general,

Digitized by Google

finally discharging its ash as bile into the intestinal tract to prevent constipation. However, the principal function of this organ is to heat the portal circulation of blood and gradually add its power to the general circulation as a heat center, which is so necessary in the great scheme of life, for there must be a constant supply somewhere. In the liver the blood of the portal veins passes through two sets of capillaries, the only place in the body where this action occurs. Here, as before mentioned, the temperature rises to the very highest point in the human anatomy, which is a positive proof of the contention.

Heat, generated in the manner described and being a lower vibration of energy, naturally radiates from the deep internal centers toward the external surfaces, and if you will notice your blood vessels you will always find your arteries hidden within the denser, deeper structures, while the veins flow ever outward toward the surfaces. When the body becomes overheated the surplus energy naturally seeks the surfaces and the skin opens its pores and the internal heat manifests itself as perspiration, driving back to the universal the waste

Digitized by Google

from within. If this is suddenly checked by any change in the temperature of environment affecting the pores of the skin, then the work of elimination must be done by the lungs and kidneys as compensatory organs, as before explained. Here, then, is the key to nearly all acute diseases, which have their onset with a fever and then a chill, and the next result is pneumonia, which has killed more of the human race than all other known diseases.

In fact, I believe that if we could regulate our lives and their internal forces with those of the external forces of nature we could save hundreds of thousands of those who annually die of pneumonia and kidney trouble, flu, etc.

Fundamental as are these newly discovered laws in the treatment and cure of diseases, in regard to the regulation of temperature, there yet remains a still higher phase of the study of energy. I now propose to lead your minds into a study of the laws of sensation itself, that very citadel of the human mind, and propose to answer some questions regarding it which have been clouded in mystery.

The inflowing energy of breath, com-

Digitized by Google

bined with the two internal sources of energy described, causes the whole organic body to become sensitized and responsive to external forces of environment on the same principle as the telephone receiver becomes active when the circuit is charged with electrical energy at a certain potential. Proof of this assertion lies in the fact that conscious sensation is lost instantly if the circulation of the blood is disturbed in the brain.

Sensation, in its broadest sense, is an attribute of all living organic substance, beginning with the protoplasmic life of the cell, which is endowed with feeble motion and contraction when touched by outside influences of environment. Even lower, under other names, the same law of sensitiveness can be traced to all chemicals that respond to waves of light energy and other influences. Everything in nature is sensitive and responsive to some other force, therefore sensation has many phases or planes of activity; from the lowest chemical action to the highest conscious concepts of the mind, there is perfect order and law. Touch is the most primitive and universal of all the senses,

Digitized by Google

it being born with the first vital filmy membrane covering every protoplasmic cell, protecting the inner contents of that cell from the more powerful influences of environment as a result of the law of necessity. Through this delicate membrane the cell life from within is able to feel the effects of cold, and it contracts; then the heat of energy from within causes it to expand and adjust itself as best it can to the forces of its environment. This fundamental force is the primal one that has shaped everything that has form within the entire universe, from the smaliest plant to the greatest planet; from the cell to the great and complicated system of organs found in the body of man, they all came about and took their various forms by reason of special forces working against and in harmony with the universal forces of energy, just a little extreme of temperature being sufficient to destroy the feeble life of a single cell. But when these cells combine into an organism they are thus able to group their power against the greater force, thus revealing that unknown quality of intelligence even in cell life.

Through a long chain of heredity, ex-

Digitized by Google

tending backward through all the ages and races to the very first primordial condition on this globe, nature has developed her system of all organs under the law of adaptation of combined internal forces to those of the external forces of environment. Out of this seeming warfare of similar powers came about the necessity of organization, and the interblending of forces, so the skin, eyes, ears, nose, tentacles, legs, brains, and nervous systems and all organs began to appear as a result of neecssity and were brought into multitudinous forms and shapes by these two opposite conditions of energy. The sense of touch is all that is required in the low forms of life as manifest in the angleworm, for he lives in the earth and eats the decaying chemicals of the earth, which supply his internal machinery, consisting of a band of tissue in the form of an alimentary canal, the outside of which is a rudimentary skin. As this same worm crawls into the light and exposes its skin the law of necessity begins to work and a fuzz or greater covering of the organism begins to appear as a protection. When this hardening process, a result of ex-

Digitized by Google

posure, begins and ensues, there comes about the necessity of eyes of a primitive sort in the front end of the crawling alimentary canal known as the worm of the dust. Even this condition of eyesight is brought about by the necessity of concentration of the internal forces of the worm's organization to the head end of its anatomy, for there eyes would be more useful in the protection of its limited life. So all special sense organs have come about by the law of adaptation and all these organs can be traced to the same source from which came the skin and nervous system, namely, the ectoderm, one of the three primal cells from which developed the whole organism of man.

Every sense organ in the human sensorium is an indirect relative of the skin or parent of the skin, and if you study morphology deeply you will find that all essential parts of the sense apparatus were primarily developed from the ectoderm; therefore all sense organs, including the brain, come from the same source as does the skin and are simply modifications of the primal sense of touch as was manifest in the lowest life of the worm of the dust.

Digitized by Google

The meaning of the word touch is to be in contact. Contact of opposite conditions of power produces action and reaction by the law of induction. Upon this law is based all electrical phenomena, from a simple voltaic pile to a three-phase dynamo, and the fact that my experiments prove that I can charge an electrical circuit with the energy from living bodies and cause it to work mechanical instruments proves that all energy, no matter from what source, is identical; and when it charges these instruments and causes them to produce phenomena, the same action reveals to us the hidden and mysterious law of sensation itself. For instance, the skin being the great primal sense organ of touch, and all special organs being nothing other than modifications of the skin reversed and fitted to do their work under long periods of adaptation and necessity, it follows in keeping with this law that the eye is nothing other than a sensitized moving-picture machine photographing every distinct object in the environment and storing these mental pictures in the sensitized cells of the brain for future use as the films of memory.

Digitized by Google

On the same principle, and almost in the same manner, the ear registers on the brain all the familiar sounds of musical and discordant notes of a lifetime. The same is true of taste and smell; all of the impressions brought into the sensorium by the organs are recorded on the sensitized cells of the brain and we are thus influenced by their force; and when they have been fully registered, then this silent gallery becomes the storehouse of memory, and by force of will or other influences these pictures may float before the mind for comparison and judgment. Long before the thought of registering sounds was ever thought of in the mind of the inventor of the telephone or phonograph or even of making movie pictures, Nature had been using every one of these principles, and even more, in every organ of her composite man.

The brain itself and all its nerve centers leading to the most intricate parts of the system, wrapped and enfolded in connective tissue, connects every part of the organic body as a whole, because these two structures are twins, as it were, in the functions of life; yet when they entwine

Digitized by Google

themselves about each other in loving embrace the organ of the brain becomes one great induction coil of functioning energy, so that when this coil as a whole is charged from the inflowing energy from arterial blood from the lungs, the great dynamo of the mind is capable of action simply because it is energized, for only under such conditions could the nervous apparatus work under the known laws of energy. For instance, the eye could not see unless the optic nerve is charged with force or vitality, and the same rule is applicable to every other sense organ, even the skin, which covers the whole organism as the organ of touch sensation, would fail to record any impulse if the great fires of energy cease for a moment within the main sources of supply to the general system.

The nerve cells of the brain are composed of the finest material of the human system, each cell being wrapped and padded with connective tissue and every one of which is a spiral induction coil or perfect miniature brain within itself. In fact, the whole brain itself is nothing other than a great union or association of

Digitized by Google

cells with a distinct and separate telephone wire leading away to join the main nerve connecting that particular part of the body to the whole. In the mental portion or cerebral cortex the cells are arranged in rows and consecutive rows just like the keyboard of a great musical instrument. Each of these cells are attuned to a certain key under the potential power of energy, consequently they can only respond to certain waves of influence which may come to them from the external vibratory forces of environment. Some of these cells are attuned to the higher pitch of the finer senses, consequently they may receive the messages of mental telepathy from any part of the universe; others can only receive the duller impressions by direct contact, yet every one of them work upon the same fundamental plan and register their impressions on the sensitized substance of each cell, to be repeated with perfect exactness when certain influences arouse and bring into action the storehouse of memory's pictures and reproduce the moving pictures of the brain.

Herein lies the secret impression and power of all influences upon the minds of

Digitized by Google

the young, because repeated suggestions of any kind will ultimately become the fixed idea of the person who receives them as certainly as water flows down stream. Eliminate all other influences from a child and talk no other than trap to that delicate mind until he is seven years old and the result will be nothing other than a mental trap. For gradually the repeated impressions from the forces of environment impress us and the more we dwell upon any single impression the more it will influence our lives and even shape our organic structure.

By force of will we may show the intelligence of the soul and reverse the mental pictures stamped upon our subjective nature by all the organs of sensation and bring them before the altars of judgment for classification. The method of Nature has been shown, how by her laws of sensation, she repeatedly stamps a picture of every object of the environment in the brain cells as a mental gallery; when these pictures are reversed by the will or judgment they constitute memory or recollection.

Recollection is an assemblage of im-

Digitized by Google

pressions for the comparison of judgment. Judgment classifies all opposite impressions into one harmonious group and calls it experience or knowledge. Fundamental knowledge leads to an understanding of principle. Principle leads to a contemplation of unity in the race mind of all experiences and knowledge gathered by the individuals of that particular race. The sum of all experiences of all the races is the basis of all our knowledge and constitutes wisdom.

Digitized by Google

Digitized by Google

NOTE

INORDER TO PREVENT COMMERCIALIZATION OF THE IDEAS CONTAINED IN THIS BOOKLET, NEW COPIES MAY BE HAD AT ACTUAL COST OF PRODUCTION AND POSTAGE, WHICH IS 15 CENTS PER COPY.

ADDRESS THE AUTHOR,

734 PINE STREET

SAN FRANCISCO, CALIFORNIA, U.S.A

Digitized by Google

Digitized by Google